

## K-Band Orbit Determination for Massive Binaries with the Palomar Testbed Interferometer

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The Palomar Testbed Interferometer (PTI) is a 2-element 110 meter long baseline H and K-band ground-based interferometer capable of examining stars with a K-magnitude of greater than 5.5 between  $-10$  and  $+50$  degrees declination (in its current configuration). As part of a program to perform interferometric studies of massive ( $> 3$  solar masses) stars we have performed K-band visibility-mode observations on bright binary systems having short periods (100-400 days). PTI is a suitable instrument for detecting companions with separations on the order of 10 mas, which is in the gap between speckle and spectroscopic mode binaries.  $\alpha$  Andromedae (HD 358), (K magnitude 2), a late B-star having a period 96 days, is arguably the best determined of these systems (Pan, et al., ApJ (1992) 384, 624) and (Tomkin, et al., AJ (1995) 109, 780) and serves as the focus for assessing the accuracy of mass determinations by this instrument. We report on the status of this program.